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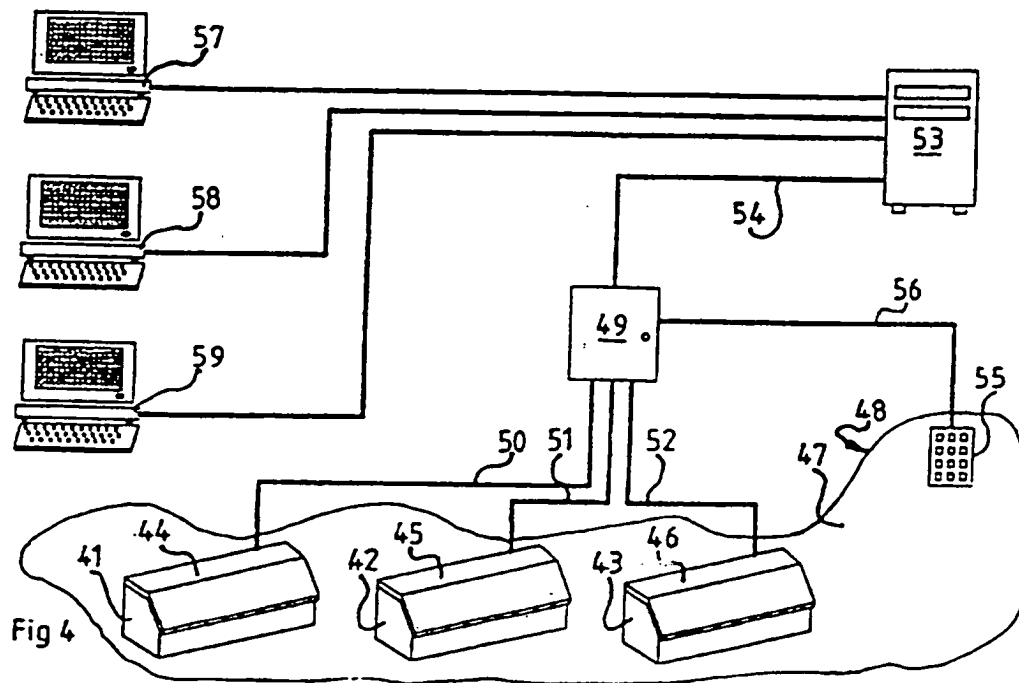
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EP 0531942 A2 EP 0396139 A1 WO 94/01838 A1
US 5385265 A

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(54) Security method and apparatus

(57) An order for goods phoned in by a customer is entered into a unit 53 which provides the customer with a code. The goods are placed in a selected locked cabinet 41, 42, 43 which the customer can subsequently unlock by keying-in 55 the code.



SECURITY METHOD AND APPARATUS

This invention relates to a security method and apparatus particularly for use in relation to the transfer of goods.

In both wholesale and retail trades it is frequently the case that a potential customer require goods at a time when sources of supply are closed, such as in the evening or at weekends. In addition a customer may be able to order goods in normal working hours but be unable to reach the supplier before closing time typically because of traffic conditions or the need to complete a job before setting out for the supplier.

According to a first aspect of the present invention there is provided a security method for providing goods from a supplier to a customer comprising the steps of:

- 1 communicating a requirement for goods from the customer to the supplier;
- 2 communicating a code message from the supplier to the customer;
- 3 storing the required goods in a cabinet;
- 4 securing the cabinet in a closed configuration wherein access to the interior of the cabinet is prevented by engaging the locking means;
- 5 enabling the customer to transfer the code message to the locking means so as cause disengagement of the locking means so as by changing the cabinet from a closed configuration to an open configuration in which access is provided to the interior of the cabinet.

According to a first preferred version of the first aspect of the present invention the locking means is regulated or monitored, at least in part, by means of a data communicating or processing device. Typically the data communicating or processing device serves to provide for the storage of information relating to the status of the locking means such as current configuration or an occurrence of transition of the configuration between open and closed.

According to a second aspect of the present invention there is provided a security apparatus in the form of a cabinet comprising:

- a plenum chamber to which access is gained by means of a hatch mounted on the cabinet;

a locking means adapted for displacement between a first, engaged, position when the locking means retains the hatch secured to the remainder of the cabinet in a closed configuration and a second, disengaged, position when the locking means enables access to be gained to the plenum chamber by way of the hatch;

a message inputting device whereby with the locking means in an engaged position on entering a code message to the inputting device the locking means is caused to be displaced to the second position; and

a communication channel whereby the locking means can be regulated or monitored by means of a remote data processing controller.

According to a third aspect of the present invention there is provided a security system comprising:

- at least one cabinet according to the second aspect;

- a remote data processing controller;

- a communication channel linking the or each cabinet to the controller;

- the controller incorporating a program enabling the locking means on the or each cabinet to be set to respond to a predetermined code message when supplied to the message inputting device of the cabinet. Typically the processing data controller includes means for establishing times of occurrence when the locking means passes between the first and the second positions.

The various aspects of the invention provide for a range of possible ways in which a cabinet can be used to receive, retain and allow controlled access to goods for the mutual convenience of a supplier of the goods to the cabinet and a receiver of the goods from the cabinet. In addition a security apparatus according to the second aspect or a security system according to the third aspect provides for access to a cabinet to be incorporated in a data processing system by way of a communication channel.

An exemplary embodiment of the invention will now be described with reference to the accompanying drawing of parts of a security system of which:

- Figure 1 is a perspective view of an open cabinet;

- Figure 2 is a sectional elevation of the cabinet of Figure 1 on section II-II;

Figure 3 is a sectional elevation of the cabinet similar to that of Figure 2 but with component parts in different relative position;

Figure 4 is a pictorial view, part sectioned, of a security system comprising a number of cabinets as described in connection with Figures 1 to 3 together with other items.

Figures 1 to 3 show a cabinet 11 made up of a steel body 12 with a hatch 13 pivotably mounted on it by means of a concealed hinge 14. The body 12 and hatch 13 serve to define a plenum chamber 15 in which goods 16 are temporarily stored as will be described hereafter. The cabinet 11 is located with its back 17 against a wall 18 of a warehouse from which electrical goods are supplied to contractors and other customers. A weather proof key pad 19 is mounted on the cabinet. Alternatively a single such key pad can be provided for accessing all the cabinets.

Locking means for the hatch 13 in the form of a solenoid lock 20 are mounted within the cabinet 11 to provide for the hatch 13 to either: be locked in place as shown in Figure 3 to prevent access to the plenum chamber 15; or be released to allow the hatch 13 to be opened, as shown in Figures 1 and 2, to enable an authorised user to gain access to the plenum chamber 15 and so the goods 16.

A communication channel in the form of a cable 21 extends from the lock 20 to the keypad 19 and from thence from the rear of the cabinet 11 through the wall 18 to a remote processor unit. The cable 21 also supplies serves to provide a power supply for the solenoid lock 20.

In use the cabinet 11 is used to store goods 16 ordered by a customer for collection at a time convenient to the customer which may be a time when the warehouse is not open for business.

Figure 4 shows a set of security cabinets 41, 42, 43 with, respectively, hatches 44, 45, 46. The cabinets 41 to 43 are similar in function to those described in connection with Figures 1 to 3. The cabinets 41 to 43 are secured to a wall 47 of warehouse 48 which contains a bin controller unit 49 (to which the cabinets 41 to 43 are connected by, respectively, cables 50, 51, 52) and a data processing terminal 53 to which the unit 49

is connected by cable 54. The cabinets 41 to 43 are regulated by way of a key pad 55 mounted on the wall 47 adjacent to, and in clear view of, the cabinets 41 to 43. The key pad 55 is coupled to the controller unit 49 by cable 56.

The terminal 53 is also coupled to work stations 57, 58, 59 to enable orders to be entered on receipt from a customer to provide for:
the identification and location of the goods to be picked and inserted in a cabinet;
the selection of the cabinet to be used (for information to the warehouse order pickers as well as the customer making the order);
the generation of an invoice and appropriate entries to customer and sales accounts and, where necessary, updating ordering procedures for replacement stock; and
printing of material where necessary.

In use a customer transfers his order by phone to the warehouse indicating that he wishes to collect the goods at a time when the warehouse will be closed. The order is taken down on the processor terminal 53 which immediately identifies an available security cabinet, cabinet 41, and provides a security code which is passed to the customer. In addition the terminal is programmed to call up the goods from a storage area, enter the cost against the customers account and identify any other matters relating to the customer.

The goods having been collected together they are transferred to and put in the designated cabinet 41 which is then closed. The communication cable 50 for the cabinet 41 (corresponding to cable 20 described in connection with Figures 1 to 3) serves to transfer to the bin controller 49 the information that the cabinet 41 is now loaded, closed and locked.

Thereafter the customer arrives and identifies the designated cabinet 41. He enters on the key pad 55 the security code supplied by the warehouse at the time of his ordering the goods. The system having identified the code as correct the solenoid lock retaining the hatch 44 is then released by the locking means corresponding to lock 20 described in connection with Figures 1 to 3. The hatch 44 is then raised and the goods removed by the customer. The hatch 44 is then closed. The key pad 55 can also be used by the customer to enter short messages for action by the warehouse

when staff are available. Alternatively an additional keypad can be provided in the cabinet 41 for use when the hatch 44 is open.

The bin controller 49 is programmed, if necessary in conjunction with processor 53, to identify and record the time when the security code is entered on the key pad 55. If necessary security sensors can be incorporated in one or more of the cabinets 41 to 43 so that in the event that unauthorised attempts are made to open a cabinet or to vandalise them then the time can be recorded. In addition the activation of such sensors can be used to trigger one or more devices such security lighting, camera operation, event recorders or alarm generators.

The exemplary embodiment describes the use of cabinets in a security system to enable a regulator of the system to provide goods to a customer. However as an alternative use the cabinets can receive goods from a supplier delivering out of hours to the system provider. The supplier is provided with a code enterable by way of the keypad to open one or more cabinets into which the supplier places the goods and then closes the or each cabinet.

A cabinet can be equipped with heating, cooling, humidity controlling equipment in order to ensure that goods stored in the cabinet are kept in an optimised condition.

In the exemplary embodiment of Figure 4 the cabinets 41 to 43 are loaded by way of their respective hatch 44 to 46. However for improved security access can also be provided from the interior of the warehouse 48 by way of an aperture through the warehouse wall 47 into each cabinet. By this means cabinet can be loaded so that an observer of the cabinets from outside the warehouse is not made aware of which, if any, cabinets have had goods placed in them. An aperture through wall 47 to a cabinet can be provided within the warehouse with a closure device with a separate security means so that once a cabinet has been opened it is not possible to enter the warehouse by way of the wall aperture.

A user can also leave a written message in the cabinet for collection and action by the cabinet regulator. Alternatively or additionally an individual cabinet can be equipped with a key pad or other communicating means coupled to the

communicating channel so that it is only usable when the cabinet is open to enable an authorised user who has gained access to the cabinet to transfer information.

CLAIMS

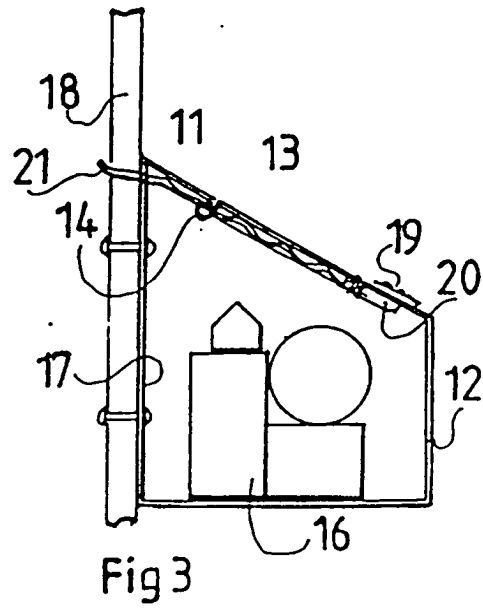
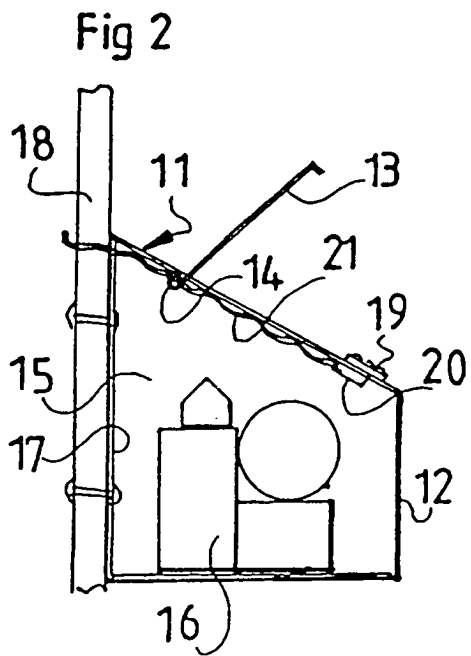
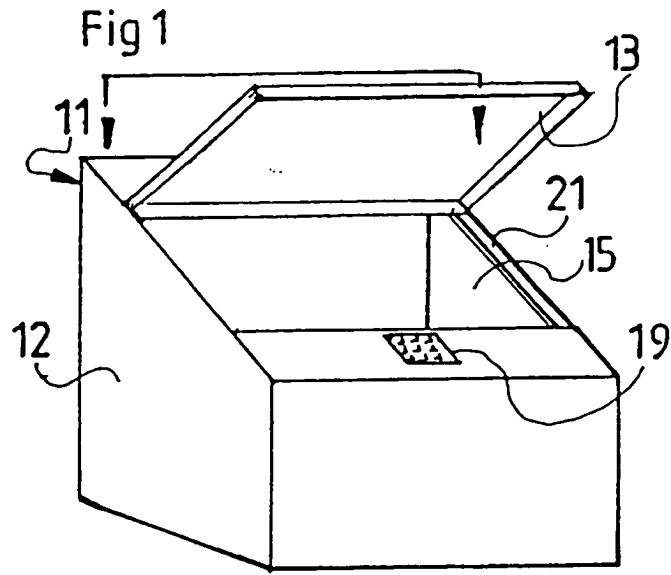
- 1 A method for providing goods from a supplier to a customer comprising the steps of:
 - 1 communicating a requirement for goods from the customer to the supplier;
 - 2 communicating a code message from the supplier to the customer;
 - 3 storing the required goods in a cabinet;
 - 4 securing the cabinet in a closed configuration wherein access to the interior of the cabinet is prevented by engaging the locking means;
 - 5 enabling the customer to transfer the code message to the locking means so as cause disengagement of the locking means so as by changing the cabinet from a closed configuration to an open configuration in which access is provided to the interior of the cabinet.
- 2 A method as claimed in Claim 1 wherein the locking means is regulated or monitored, at least in part, by means of a data communicating or processing device.
- 3 A method as claimed in Claim 2 wherein the data communicating or processing device serves to provide for the storage of information relating to the status of the locking means such as current configuration or an occurrence of transition of the configuration between open and closed.
- 4 A security apparatus in the form of a cabinet comprising:
 - a plenum chamber to which access is gained by means of a hatch mounted on the cabinet;
 - a locking means adapted for displacement between a first, engaged, position when the locking means retains the hatch secured to the remainder of the cabinet is a closed configuration and a second, disengaged, position when the locking means enables access to be gained to the plenum chamber by way of the hatch;
 - a message inputting device whereby with the locking means in an engaged position on entering a code message to the inputting device the locking means

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 - a message inputting device whereby with the locking means in an engaged position on entering a code message to the inputting device the locking means

is caused to be displaced to the second position; and
a communication channel whereby the locking means can be regulated or
monitored by means of a remote data processing controller.

- 5 A security system comprising:
at least one cabinet as claimed in Claim 4;
a remote data processing controller;
a communication channel linking the or each cabinet to the controller;
the controller incorporating a program enabling the locking means on the or
each cabinet to be set to respond to a predetermined code message when
supplied to the message inputting device of the cabinet. Typically the
processing data controller includes means for establishing times of occurrence
when the locking means passes between the first and the second positions.
- 6 A method for providing goods as hereinbefore described with reference to the
accompanying drawings.
- 7 A security apparatus in the form of a cabinet as hereinbefore described with
reference to, and as illustrated in, figure 1 to 3 of the accompanying drawings.
- 8 A security system as hereinbefore described with reference to and as
illustrated in Figure 4 of the accompanying drawings.



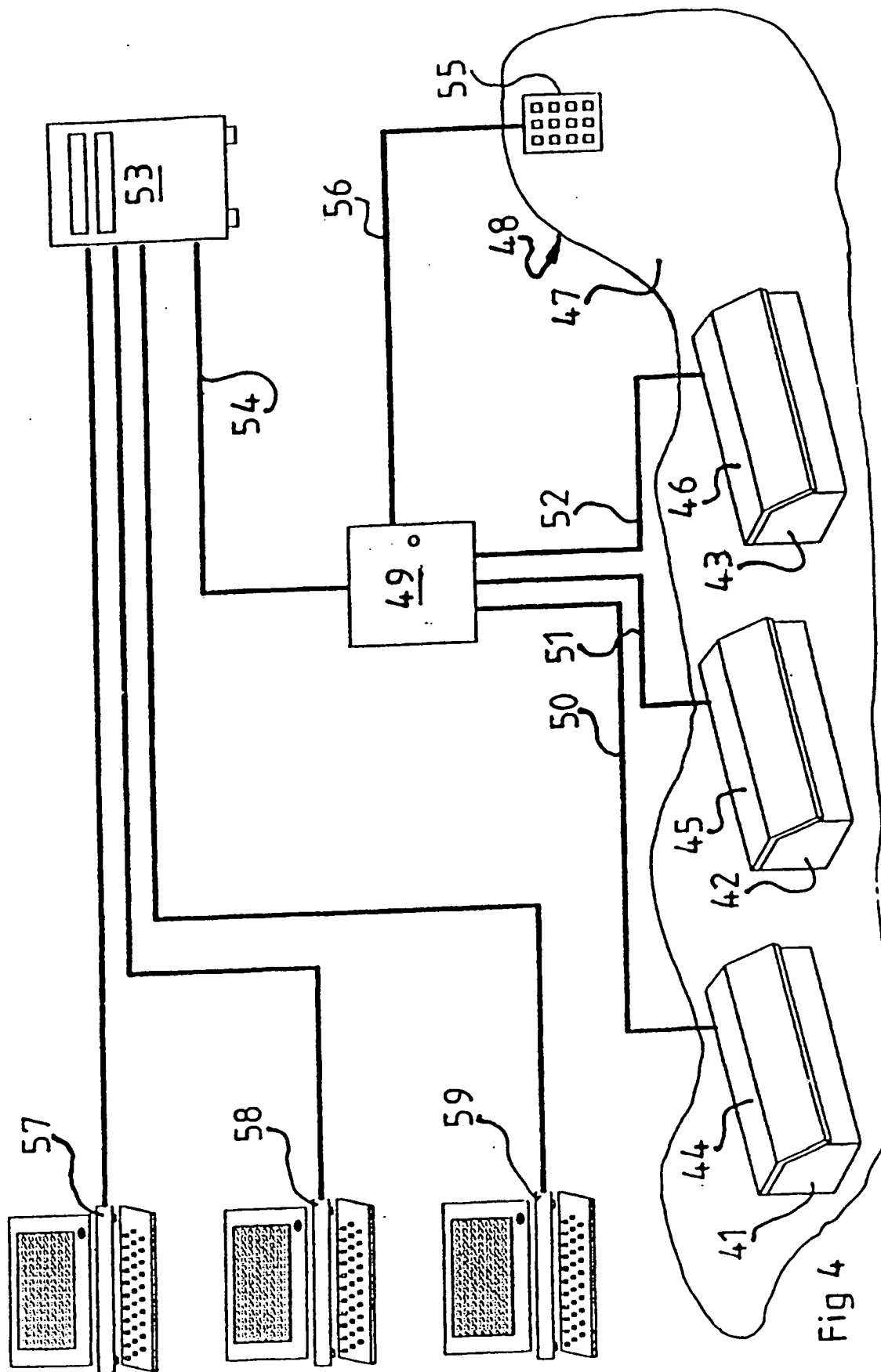


Fig 4

Relevant Technical Fields

- (i) UK Cl (Ed.N) G4H (HTG)
(ii) Int Cl (Ed.6) G07C, G07F

Databases (see below)

- (i) UK Patent Office collections of GB, EP, WO and US patent specifications.

- (ii) ONLINE: WPI

Search Examiner
M J DAVIS

Date of completion of Search
17 AUGUST 1995

Documents considered relevant
following a search in respect of
Claims :-
1-3, 6

Categories of documents

- X: Document indicating lack of novelty or of inventive step. P: Document published on or after the declared priority date but before the filing date of the present application.
- Y: Document indicating lack of inventive step if combined with one or more other documents of the same category. E: Patent document published on or after, but with priority date earlier than, the filing date of the present application.
- A: Document indicating technological background and/or state of the art. &: Member of the same patent family; corresponding document.

Category	Identity of document and relevant passages	Relevant to claim(s)
X	EP 0531942 A2 (ACCUMULATA)	1 at least
X	EP 0396139 A1 (ACCUMULATA)	1 at least
X	WO 94/01838 A1 (MARKETING CONSULT NORD)	1 at least
X	US 5385265 (SCHLAMP)	1 at least

Databases: The UK Patent Office database comprises classified collections of GB, EP, WO and US patent specifications as outlined periodically in the Official Journal (Patents). The on-line databases considered for search are also listed periodically in the Official Journal (Patents).